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## SOURCE APPROVALS FOR AGGREGATES

### **GENERAL**

All aggregate material shall be produced from approved sources. Only those sources, which can provide aggregates consistently compliant with the applicable specification, shall be approved.

### **AGGREGATES FOR USE IN PORTLAND CEMENT CONCRETE**

- A. Written source approval shall be required.
  - 1. A producer request for source approval shall be made, in writing, to the appropriate District Materials Engineer with a copy to the Office of Materials in Ames, Iowa.
  - 2. The District Materials Engineer will respond to the Materials Engineer with supportive evidence and recommendations to: (a) approve the source, (b) not approve the source, or (c) request that specific additional information is obtained as a basis for a final decision.
  - 3. After review with the District Materials Engineer, the Geologist will prepare an appropriate letter of approval or rejection. Upon the signature of the Materials Engineer, the letter will be issued to the aggregate producer.
  - 4. The distribution of aggregate source approvals, or changes, will include the producer, the appropriate District Materials Engineer, and the Pavement Design Engineer.
- B. Source approvals shall describe, in detail, any physical limitations of the subject source and any special production methods, or restrictions required to produce specification material.
- C. Preliminary source approvals may be issued whenever sufficient quality information is available. This will expedite the development of new sources or ledges by establishing the primary quality level without requiring production material to be available. A final source approval will follow only after adequate amounts of compliant material have been produced. Aggregate producers may quote from ledges with preliminary approvals assuming full responsibility for the timely delivery of complying materials to the projects in question.

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## **STONE FOR REVETMENT**

1. Source approvals, written by the appropriate District Materials Engineer, shall be required for limestone, dolomite, and quartzite materials. The source approvals shall identify the ledges and the types of revetment for which they are approved.
2. The basis of approval shall be by one of the three methods stipulated in 4130.01 :
  - a. Service History
  - b. Test Plot Performance
  - c. Approval by Testing
3. All revetment stone from ledges containing conglomerate or breccia, where the performance history has not been established shall be evaluated using a two-year wet test plot before approval. Conglomerate and breccia shall be defined as any rock that contains clasts (i.e., fragments or pieces) of a pre-existing material.
4. The distribution of approvals will include the producer and the Materials Engineer.
5. When subsequent performance indicates the source approval to be in error it shall be modified or rescinded as necessary.

## **APPROVAL PROCEDURES**

- A. Approvals by Service History
    1. The source approvals shall document the location, age, and sources of all usage forming the basis of the approvals.
    2. The historical usage must conform to the revetment class approved.
  - B. Approvals by Test Plot Performance
    1. Test plots may be of any size that incorporates all beds of the ledge under evaluation.
    2. For Class A, B, D, and E revetment, the test plots must be constructed in an environment of wetting and drying cycles combined with seasonal freezing and thawing cycles that meet with the approval of the District Materials Engineer.
    3. The test plots will be evaluated after two years and shall have no more than 25% of the stones showing cracks or fractures.
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C. Approvals by Testing.

1. A record of Alumina Content (Iowa DOT Test Method 222) or freeze and thaw tests (Test Method 211, Method A) and Iowa Pore Index Tests (Test Method 219) should exist such that the District Materials Engineer is assured of reasonable conformance to the specifications. When no record exists, test results may be secured from production samples; ledge samples (blockstoning), or samples from rock cores.

**OTHER AGGREGATES**

- A. When appropriate, and after review and concurrence of the Geologist, the District Materials Engineer may establish source approval procedures, including production restrictions.
- B. A copy of such source approvals, and any subsequent changes to them, shall be provided to the Geologist in the Office of Materials.
- C. The District aggregate source files should retain all documentation of materials approved for production, including production equipment, production methods, restrictions, etc.